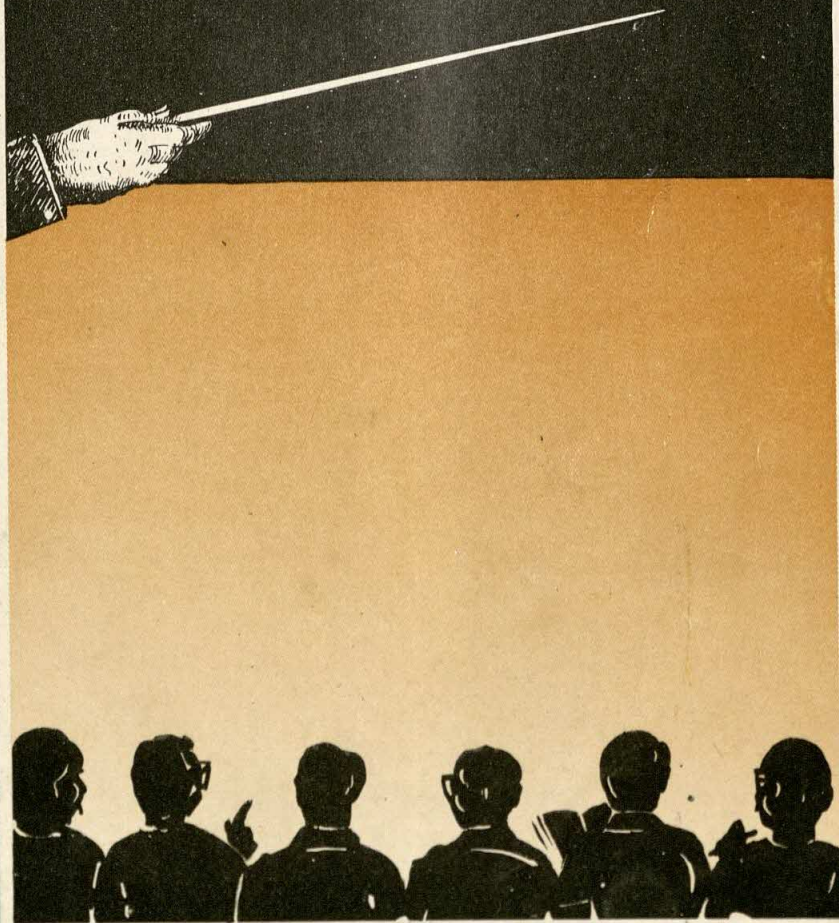


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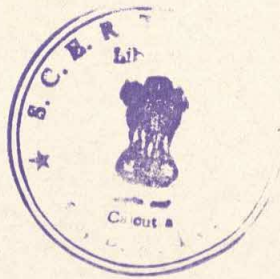
Prof. R. H. Dave's
Discussion on MLL Programme



STATE COUNCIL OF EDUCATIONAL
RESEARCH & TRAINING, WEST BENGAL

A RESUME OF

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FOREWORD

The concept of competency - based teaching-learning is not a new one. It is akin to the concept of Minimum Learning Continuum as introduced by the NCERT as early as in 1978 to implement the Primary Education Curriculum Renewal, a UNICEF Assisted project. The Dave Committee, appointed as per suggestions of the New Education Policy, 1986 submitted its report in 1991 detailing out the concept of competency - based teaching-learning and subsequently the implementation of the MLL programme started. As a part of the implementation of the programme a Review Meeting of the States of eastern region of India on the status of implementation of the programme was held by the Ministry of Human Resource Development (MHRD) in collaboration with the SCERT, West Bengal, in the SCERT premises on the 29th February, and the 1st March, '1996. Prof. R. H. Dave himself was the main speaker in the meeting and discussed elaborately the procedures of preparation of competency-based text books as well as the concept of Minimum Levels of Learning. This publication is an attempt to present the basic theme of Prof. Dave's discussion as far as we could record it.


My colleague Prof. S. K. Mukherjee has been painstakingly perseverent in making his attempt for compiling the basic points discussed by Prof. Dave on the above - mentioned theme & regrets for not being able to present them in verbatim and in toto.

Dr. Dhiraj Kr. Banerjee was also very helpful in supplying a major portion of the materials for compilation.

I personally owe a deep debt of gratitude to our Hon'ble MIC Shri Kanti Biswas for his keen and abiding interest in the subject and active participation in the meeting and finally his encouragement for publication of Prof. Dave's lecture.

The responsibility of errors, and omissions is however mine.

The 28th October, 1996.
25/3, Ballygunge Circular Road,
Calcutta - 700 019



(M.S. Chatterjee)

Director,
SCERT, West Bengal

A RESÚME OF

Prof. R.H. Dave's

Discussion on MLL Programme

Any discussion on academic as well as pedagogical programme for primary education in India must have in its background a brief reference to the position of primary education and the extent of literacy of its different provinces. Standardisation of our programme calls for knowledge about the policy of measurement of Minimum Levels of Learning (MLL). As a matter of fact convergence of various programmes such as SOPT, DPEP or UNICEF-assisted programmes, towards MLL Programme, is an imperative. Experience of primary education in various states such as (1) Rajasthan, (2) Gujrat, (3) Karnataka, (4) Kerala, (5) Tamilnadu, (6) Andhra Pradesh, (7) Orissa, (8) Assam, (9) Manipur, (10) Arunachal Pradesh, (11) Madhya Pradesh, (12) Uttar Pradesh and (13) West Bengal may be referred to in this connection.

Actually some sort of an Andolan (Campaign) as is taking place in Rajasthan, is necessary for rapid spread of primary education. Shri Anil Bordia, ex-Education Secretary to the Govt. of India tried his level best to promote primary education in India during the tenure of his office. As a part of the Andolan (Campaign) the State authorities in Rajasthan started distribution text books free of cost. The quality of learning was emphasised althrough and the percentage of literacy was promoted from 35 to 60. The procedure for measurement and evaluation was transmitted through training of teachers from State level to the district level and finally to the Taluk level. The teachers' organisations extended their active cooperation towards organisation of teachers' training. Teachers' training in respect of MLL is an important ingredient for improvement of quality and the experience of Gujrat, Tamil Nadu, Andhra Pradesh, Assam, Madhya Pradesh and Uttar Pradesh is worth noting in this connection. The MLL

Programme has started with a number of selected schools. In Assam & districts have been selected for DPEP intervention. The example of Kerala may be mentioned in this connection. The involvement is 100% and drop-out is nil. Teachers' involvement should be the total and not partial. Success of the MLL programme as a matter of fact requires several ingredients.

The following are the basic requirements for teachers :

1. Development of Teachers' own competencies and their commitment to take a lead in the MLL Programme.
2. Development of proper attitude towards their noble profession. This is essential for achievement of better education.
3. Imbibing of high sense of moral values/obligation to motivate the teachers to work heart and soul.
4. Engagement of optimum number of teachers and their proper orientation.
5. Change of school environment to a congenial one. A school building with educational infrastructure is quite different from an ordinary building, may it be palatial.
6. Enabling the teachers to honour themselves. As primary education lays foundation for further education, Primary teachers should be boastful of their involvement in primary education.

As to the competencies to be acquired by teachers, the following six competencies must be kept in mind.

1. Conceptual competency for universalisation through individualisation of improved and much better quality of primary education.
2. Content competency.
3. Transactional competency.
4. Evaluation competency – evaluation in continuous and comprehensive manner.

5. Management competency – for example, multigrade teaching management, management of teaching-learning in a large class, classroom management, management of group learning or group discussions etc.
6. Competency for developing a healthy relationship between the school and the community– how to come closer to the community– identifying the areas of inter-relationship between the school and the community.

It is true that extensive expansion of primary education is necessary but MLL programme must be adopted intensively to promote quality. No compromise whatsoever be made with quality. In Orissa for example, selected few of 30 schools were taken as Project Primary Schools out of 42000 Schools for the MLL programme and the teachers and the students were involved totally in the programme.

As a matter of fact, one should start with a realistic definition of education – a definition that can be interpreted in terms of realities of life or translated into action. For improvement of quality besides teachers' training or orientation, competency-based text books are essential. A total plan of action absolutely of our own, need-based in nature can bring about the desired success. The basic strategy is to start with a small quantum of learning at Class I and gradually move on to a large and larger quantum. The list of competencies is more important here.

Use of intelligence which is higher in human beings is of prime importance. Improvement of quality must cover almost all the children. In a class even if it is assumed that there is not any physical drop-out, there may be psychological drop-out as well. These are the children who are retarded and attend the class as back benchers. As a matter of fact a class is composed of children of different levels of intelligence. There are some extraordinarily brilliant children and at the same time, there are some of less intelligence level. Textbooks for a class as a matter of fact, reflect some sort of compromise for all these different levels. Equity and social justice call for this type of programme for universalisation of quality

improvement.

As to the distribution of textbooks, these are distributed free of costs in some states. In Orissa books sold at subsidized rate. While distributing text books free of cost it should be kept in mind that there are many particularly in urban areas who can afford to pay for the books and in this sense it is like subsidising Tatas or Birlas. Textbooks as a matter of fact, should be given free of cost to those who actually cannot afford to pay for them. Situation in which students used to leave schools as dropouts for economic reasons is now a changed one.

Preparation of competency - based textbooks and relevant materials such as workbooks involves several subtle points. It is not proper to throw away what is good in the old text books. New textbooks must also incorporate into them the good things of the old text books. Again, old textbooks may be converted into new textbooks based on competencies. The very definition of textbook implies this. There are various types of books such as novels, biographies etc. But a textbook differs from them. An ordinary book is a compendium of content but a textbook is not only a compendium of content but also a compendium of techniques. These techniques are the teaching-learning techniques aiming at enabling the students to attain certain competencies. So two basic points regarding textbooks must be kept in mind. Besides content they must contain teaching-learning techniques which may be of different variety.

In preparing a competency-based textbook a list of competencies for learner's attainment through the subject in the particular class should be given at the beginning. These competencies are the objectives for learners' attainment. They are very specific in nature. The distinction between functional approach and logical approach should be kept in mind. The concept of competency must be very clear and clarification of this concept in its turn calls for clarification of the idea about education. What is education? Education is a process of human empowerment for the achievement of better and higher quality of life. Education finds senses in having a good job, more money, appropriate level of living- all leading

to a better quality of life. But education also influences attitudes, our values and this in its turn results in heightening our quality of life. Achievements in the cognitive areas of learning such as knowledge, understanding and mental skill bring about development of vocational and occupational skills which in their turn help to bring about the aforesaid quality of life such as better food, clothing, shelter etc, all external in nature. Achievements in the non-cognitive areas of learning such as attitude, personality, values and psychomotor skill help to bring about the internal qualities of life such as mental satisfaction, peace and blissfulness. Happiness as a matter of fact, is brought about through the attainment of both the external and internal qualities. It may be noted in this connection that in defining the term education the word 'development' has not been used. This word actually is a double-edged word. Better and higher quality of life refers to attainment of happiness. Material prosperity in the form of affluence or highly technological advancement does not necessarily ensure happiness which actually exists in one's own mind and therefore calls for improvement of internal qualities as well. The word quality is therefore, being emphasised.

We now come back to the case of the word empowerment. Education increases the power of a learner. How this function is performed by education can be illustrated. A child can speak and can listen to. He cannot read. As soon as he learns how to read he can read a sign board or the route number written in front of a bus. Education generates in him a power or skill. He can now read letters, books, or dates of a calendar and understand the inner sense. While reading the dates of a calendar he may come across the concept of a leap year. The story of birth-day celebration of Shri Morarji Desai may be referred to in this connection. At the age of 80 years when he was felicitated on the occasion of his birthday he said "I am just 20 years old." Only an educated person has the power to understand that Shri Desai was born on the 29th February in a leap year. His birthday therefore, comes once in every four years. The whole process of education increases the power of an individual. This

power again is of three categories. One is cognitive power, second is the power in terms of practical skills. Among the practical skills one may cite the example of writing, drawing, mapping, doing an experiment. Even eating in a proper manner is a power requiring practical skill. The last but not the least, type of power is often expressed in terms of inherent character i.e., observance of values, extension of cooperation, working together etc. Learning how to work together, how to extend co-operation, how to love others, how to serve others or to do a little bit sacrifice for others engenders these qualities in an individual. These are all elements of power, non-cognitive in nature.

Education, as a matter of fact enhances the power. When a child of 5 or 6 years old comes to the school he knows how to speak. In school his power of speaking is increased. He is made capable of speaking clearly, explicitly and sometimes with gesture to make his expression more effective. He is enabled to use appropriate and precise terms, grammatically correct sentences. He must know how to speak with friends, with parents or with his juniors. Education performs all these tasks and hence education is a process of human empowerment.

How actually is the power of a learner of age group 6 to 11 years increased? We must probe deep into the matter. We can take the example of a sparrow. Within a few hours of its birth it starts opening its mouth and within a few days it learns how to fly and within a few weeks it becomes independent of its parents. One can also take the example of a calf which also gradually learns how to stay independently.

In case of human beings an infant takes at least 6 months to crawl. It takes, another 4 to 5 months to get up and stand on his two legs and another 4 to 5 months to master walking and never becomes independent of his parents till he attains adulthood. It takes years for him to be independent. The basic point to note is that development of a human child is rather slow but sequential in process. The lesson that we can draw from here is that to empower a child through education we must hit upon a method which follows a sequence and can be applied step by step. We can pose the problem in this manner. What are the capacities to be

developed in a child of 6 years old ? What are the capacities to be added when he attains the age of 7 years and then 8 years? What are the additional capacities to be generated in him as he grows older? Thus a whole process is to be built up bit by bit in a coherent manner.

So education, as we have defined it, means increasing power of the child. But this power can be enhanced in the most effective manner when we know the different elements of power that we can give to the child at different age levels. We are to prepare a list of these elements. These are actually the competencies. Actually there is a vertical continuum of competencies, as well as a horizontal linkage of competencies. Learning here is to be seen as a continuum in which units are sequenced hierarchically. What is to be emphasised is that one must proceed slowly, step by step in a sequential process with an eye on the totality to be given.

We must follow, as we have shown in our example, the basic nature of human beings and must do our best simply to nurture the inherent power according to his nature.

Now we come back to our original discussion on how to write a good textbook. In preparing a competency based textbook we must first identify or list out the competencies keeping in mind our goals in terms of learning continuum. Secondly, after the competencies are listed out we must select lessons the contents of which uphold the achievable competencies. This is one of the basic techniques to be followed. Let us take the example of development of the competency of speaking (Kathan). This is a major competency learnt in Classes I to IV. Once this competency is identified the content of the lesson should be such as would allow the teacher to develop this competency in the learner. One may for example, select the format of a dialogue. But the style of the dialogue will vary according as the dialogue between friends, dialogue with parents or dialogue with unknown person. The style will differ in each of the cases. So, after the competency is identified the next step is to select a lesson with content upholding the competency and not the reverse to be followed i.e., to select a lesson and then to identify the competencies in it. In mathematics it

is very easy to select lessons following this type of relationship between competency and competency oriented lesson-content. But in case of language the selected lesson may focus one or more basic competencies but some other allied competencies may flow in.

This is not unusual and should be allowed. For example in case of Kathon use of some words spelling of which also requires to be learnt may, in normal course creep in the content. Along with the style of conversation, this competency of spelling the words should be treated as normal. But focus on too many competencies may even blur the focus. Two or three interrelated competencies or may be one in case of such subject as environmental studies are usually accepted as ideal for a lesson.

The second point suggests that the lesson-content should be so selected as would contain the competencies identified. This in a way suggests the third point. The third point to be followed is writing a text book is that the content should be so written or presented as would be fully in line with the identified competencies. To repeat the point, content matter should be so organised, presented and written in a language as would allow the teacher to develop the identified competencies or competency in the learners most conveniently. This is known as the technique of presentation of materials. An example in mathematics may be helpful in making the point understand. Three examples of subtraction are given below :

$$\begin{array}{r} 357 \\ \underline{148} \\ 209 \end{array} \left. \vphantom{\begin{array}{r} 357 \\ \underline{148} \\ 209 \end{array}} \right\} \text{ Case of subtraction with single borrowing}$$

$$\begin{array}{r} 357 \\ \underline{168} \\ 189 \end{array} \left. \vphantom{\begin{array}{r} 357 \\ \underline{168} \\ 189 \end{array}} \right\} \text{ Case of subtraction with double borrowing}$$

$$\begin{array}{r} 385 \\ \underline{274} \\ 111 \end{array} \left. \vphantom{\begin{array}{r} 385 \\ \underline{274} \\ 111 \end{array}} \right\} \text{ Substraction with no borrowing}$$

So the learner is acquiring three interrelated competencies while learning subtraction. He must be able to carry out subtraction with no borrowing, with borrowing and then with double borrowing. The basic point to be noted here is that our objective is not only to enable him to attain the competency but also to enable him to attain the competency in the best possible manner at the mastery level. So the competency should be clearly analysed, all the elements in it may be found out and then the content should be written in a systematic manner so that the teacher while following the content can imbibe in his learners all the elements in such a way that they attain high level of proficiency in that competency. The third point therefore, basically emphasises the fact that once the competency/competencies is/are identified and the lesson - content selected, the content should be so treated, presented and expressed as would enable the teacher to develop the competency/competencies in his learners.

We may now pass on to the discussion of the 4th point. After the presentation of the text materials unit wise exercise in the textbooks should be inserted for reinforcement of competencies attained. This reinforcement is essential. The learners are young in age with limited span of attention. All of them cannot catch properly the competencies placed before them. Learning often becomes feeble. Feeble learning is fragile learning and fragile learning is unusable and unusable learning is wasteful. Feeble learning actually implies underachievement. So to optimise achievement we should give our children such materials as could be used for reinforcement. Certain things are there which the students can learn in a group as in a classroom. But a student as an individual can learn so many things surely and certainly if he is provided with materials that can reinforce what has been taught in the group i.e., in the classroom. In this sense workbooks act as materials for individualised reinforcement of what has been taught in the classroom from text materials. A work book is therefore of great importance. A work book is an instructional material for

- (ii) independent learning
- (iii) self-learning
- (iv) reinforcement of learning
- (v) attainment of mastery level of learning
- (vi) universalisation of quality
- (vii) bringing about equity in education.

Actually MLL implies quality with equity. How this quality coupled with equity is attained. Actually individualisation of learning through work book can bring about universalisation of quality or quality coupled with equity or social justice in respect of education. In the teacher dominated learning in a class-room situation full concentration of the student is rarely attained. But self-learning through the use of workbook elicits concentration of the learner. It becomes a learner dominated affair in which concentration leads to the attainment of high level proficiency or mastery. An initiation of learning takes place when a teacher introduces in the class a particular lesson containing identified competencies. Class-room teaching in this sense should be treated as initiation of learning which requires reinforcement for achievement of proficiency by the students. Unit wise exercise is given in the text book for this reinforcement. This type of exercise or a work book leading to self-learning is a part of the teaching-learning technique that characterises a text book. The author of a novel does not write exercises or a workbook along with the novel whereas the author of a text book gives maximum attention to the unitwise exercise or work book containing unit wise exercises.

Then comes our next point, the 5th one. This point relates itself to evaluation. After the cluster of competencies are imparted and supposed to have been attained by the learners an evaluation or test becomes necessary. Competencies for each lesson are identified and listed out. There are some major competencies and some related elements of competencies to the major ones which if called sub-competencies may prove to be confusing to the primary school teachers. If major ones are

called Samarthya in Bengali then the related ones need be called Upasamarthya or as they are known in Gujrat, Khamata and the related ones need be called Upakhamata and in Hindi, Dakshata and Upadakshata. We may use two words, major competency and competency area. So a competency-based test covering all the areas for checking how far the students have progressed in respect of achievement of all the competencies is essential. A text book therefore, must incorporate into it some such test papers for checking the progress and not for determining "pass or fail". They are meant or diagnosing, for detecting the points of weakness and then adopting suitable remedial measures as well as providing enrichment materials to those well in advance in comparison with others.

Our sixth and the last but not the least point is that the text book at its end must contain a "comprehensive test" covering all the important competencies taught in class in the subject. These comprehensive test items are meant for assessing how far the students have been able to attain the general competencies that the subject places before the students at a particular class. These are in brief, the essentials for preparation of a competency based text book of which teaching-learning technique is the basic feature.

So far as the universalisation of primary education is concerned certain basic points should be kept in mind. (1) It is recognised throughout the world that differences among individual learners exist. At the initial stage, 80% to 90% of the children should be the target and simplicity of the learning materials should be emphasised. (2) In Japan where literacy is now as high as 99.8% attainment of such a percentage of literacy was once considered to be an utopian idea and this was also the case in Germany. That the 90% of the children can be inducted into primary education is now recognised as a global phenomenon. (3) At the primary level it is possible to educate all the children coming either from poorer or from middle class families (4) Most of the children, some 80% to 90% have some basic capacity and our aim should be to get maximum benefit from the primary schools.

How does actually learning occur? Learning initially is an outcome of interaction between teacher and the learner. Learning occurs and improves through activities. The flow-chart shows the interactive interrelationship:

Learning \longrightarrow Activities \longrightarrow Interaction

As competencies are our goals, competency based activities and competency based text books and interactions should be emphasised. Of the various types of interactions, three major types require mention:

(a) Interaction between learner and teacher:

$$(L_1 \rightarrow T)$$

(b) Interaction between learner and learner (in the group or class):

$$(L_1 \rightarrow L)$$

(c) Interaction between learner and materials:

$$(L_1 \rightarrow M)$$

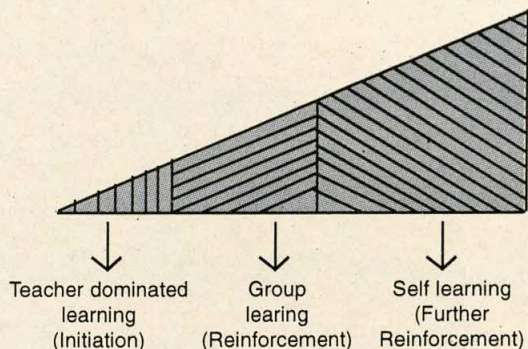
So we can indicate education leading to empowerment of learner (L_1) within the age of group of 6-11 years as summative function:

$$\sum_{6}^{11} E_{L_1} = f \Sigma (L_1 \rightarrow T, L_1 \rightarrow L, L_1 \rightarrow M)$$

Education of an individual learner (L_1) within the age group 6-11 is the sum total of the functional outcome of the three types of interactions (i) between learner and the teacher, (ii) between the individual learner and the learner in the group or class and (iii) between learner and the learning materials.

Interaction between learner and teacher, as a matter of fact often leads to what is known as teacher dominated learning. Here concentration, the basic element essential for learning is less. This type of teaching-learning process may be made effective by increasing the practical work/ working out of exercises. Interaction between learner and learner brings about more concentration than the previous one and takes place through what is known as group learning. Finally interaction between learner and materials brings about maximum concentration and leads to what is known as self-learning.

the respective role of each of these three types of learning in the attainment competencies is shown below by the following diagram:



In the first part initiation of learning/new competency to be learnt takes place. Here teacher dominates and is the most important element. Reinforcement of learning initiated takes place through group learning and self-learning brings about further reinforcement of learning. The basic points to be kept in mind in this context are :

1. Empowerment
2. Competency is an element of power to be earned.
3. Mastery
4. Quality
5. Equity
6. Minimum Levels Learning.

Empowerment is the key point. Competencies are the elements of power. Both cognitive and non-cognitive elements should be equally emphasised in the process of this empowerment. Thus empowerment is brought about by attainment of competencies at the level of quality which implies attainment of the competencies at the level of mastery by all the learners (equity). Equity thus means universalisation of quality.

We can use the following notations for the sake of brevity :

$$Q = C + M$$

(Quality) = (Competency) + (Mastery level)

The term MLL (Minimum Levels of Learning) as a matter of fact, refers to the achievement of expected competencies at the level of mastery by most of the students at the stage of Primary Education. By using notation,

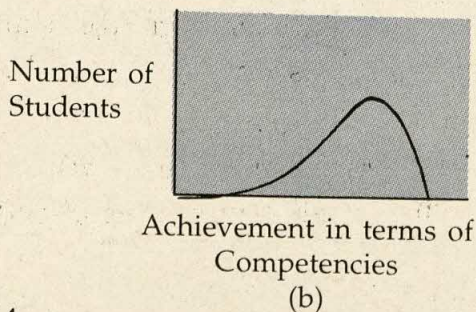
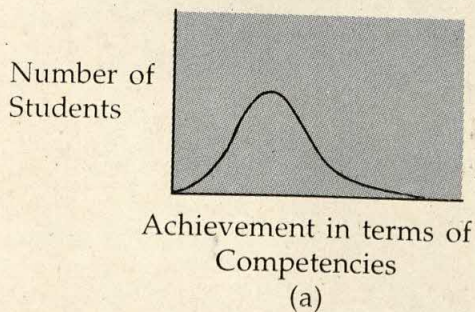
$$MLL = Q + E$$

(Quality) + (Equity). But $Q = C + M$ as shown above.

$$\therefore MLL = C + M + E$$

(Minimum Levels of Learning) = (Competency) (at the Mastery level) (with equity)

MLL is thus a strategy and process for teaching-learning. Its implementation requires (i) a clear concept about it (ii) Competency statements and (iii) Operational strategy. Here "minimum" does not set any upper limit. One can start with a minimum but gradually should go on developing higher and higher level of proficiency. Operational strategy consists of selection of schools and involving learners, teachers, parents and the community as a whole. The basic objective is to fight the enemy, the enemy of underachievement. The achievement level in terms of competencies of the largest section of our students at the primary level is at present significantly low. Our target is to promote this achievement level and ultimately to bring the largest section towards high level. The positively skewed distribution as shown in figure (a) below indicates the present position in respect of achievement, while the negatively skewed distribution as shown in figure (b) indicates what our target should be. The largest section must be brought towards high values in terms of achievement of competencies.



The essentials for MLL Programme are :

- (i) clear concept about MLL
- (ii) competency based teaching - learning
- (iii) promotion of group learning
- (iv) reduction in teacher-dominated learning
- (v) enhancement of self - learning
- (vi) continuous, comprehensive evaluation
- (vii) remedial teaching
- (viii) emphasis on activity-based teaching
- (ix) joyful learning.

Finally, a word on the indication of the results of evaluation through a system of gradation. The table below explains this.

| Letter Grading | Number Grading | Score (%) | Achievement Level |
|----------------|----------------|-----------|------------------------|
| A | 1 | 90-100 | Full mastery |
| B | 2 | 80-89 | Very good mastery |
| C | 3 | 70-79 | Good mastery |
| D | 4 | 60-69 | Nearing mastery |
| E | 5 | 50-59 | Moving towards Mastery |
| F | 6 | Below 50 | Unacceptable |

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